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native grasses

A Design For Conservation Project

Tallgrass prairies once covered most of northern and western Missouri. Over 15 million acres of native prairie welcomed the westward-bound wagon trains. Pioneers found bison, elk, deer, bear, cougar and an abundance of smaller animals such as turkey, quail and prairie chickens living among these warm-season grasses.

Early settlers discovered that the prairie, with more than 200 species of grasses and forbs, was as fine a quality forage for domestic livestock as it was for bison and elk. But the bison moved slowly across the plains, grazing an area and then leaving it to recover, whereas the stockmen's fences confined cattle to small areas which they overgrazed. Fires from lightning or Indian hunters once had burned uncontrolled across the grasslands, but the settlers suppressed them. The result was a weakening of prairie plants which encouraged invasion of the prairies by woody plants and undesirable vegetation.

Man's response to the deterioration of native prairies was to develop and plant strains of exotic grasses. By planting single species stands of tame grasses and using large

amounts of herbicides, pesticides and fertilizers, man could produce more forage than the natural prairies had provided. Many landowners, however, soon began to realize this boost in quantity of grasses required substantial investment in manpower, equipment, chemicals and fertilizers. In an era of ecological awareness, man realized the instability of a plant community composed of only one species.

Though man cannot completely replace all the components of a virgin prairie, it is possible to re-establish many prairie species. You can plant big bluestem, little bluestem, switchgrass, Indian grass, sideoats grama and a number of flowering plants singly or in combinations to provide many of the values of native prairie.

Why plant native grasses?

- They are well adapted

Native grasses achieve good growth, even on some marginal soils. They have developed naturally under Missouri climate and soil conditions; that is why they are called native grasses.

- They provide dependable forage production

As weather patterns change, native grass yields fluctuate less than those of tame grasses. Disease and/or insects also have less effect on mixed stands. Native grasses grow during summer when other grasses have stopped growing. Under proper range management, a stand will produce forever.

- Maintenance is low

Native grasses do not require pesticide or herbicide applications to maintain a stand. Fertilizer is not needed unless the stand is intensively managed. Planting native grasses also eliminates equipment expenses associated with maintenance mowing.

- They have extensive root systems

When properly managed, native grasses have a fibrous root system 5-15 feet long. This deep root system provides excellent soil-holding capabilities and drought tolerance.

- They increase soil fertility

Ninety percent of the humus native grasses produce is from regeneration of the root system and, therefore, is incorporated directly into the soil. There is a complete regeneration of the root system every three to four years.

- Lifestock gains increase

Native grasses provide lush grazing during hot summer months. Higher summer nutrition allows livestock to gain weight throughout the summer.

- They are excellent for wildlife

Native grasses provide cover for nesting areas. Mixed stands provide a diversity of seeds and insect populations for both young and adult birds. Grasses provide green browse during summer and remain upright to provide cover during severe winter weather.

- They are attractive

The lush foliage of native grasses produces varying shades of blue and green in summer, red and gold in winter. Grasses remain upright throughout winter.

Over five million acres of native warm-season grasses have been reseeded in the plains states. The U.S. Fish and Wildlife Service and state wildlife departments in the West have seeded some 25,000 acres as wildlife habitat. Successful native grass plantings are reported as far east as New York. In the last five years, Iowa farmers have seeded 4,000 acres to native warm-season grasses for forage and erosion control.

Native grass plantings are proving their worth in forage programs, soil reclamation projects, erosion control, wildlife habitat, landscape and beautification projects.

> Soil Conservation Service tests in Nebraska showed that steers on a rotational grazing system which included warm-season grass pastures gained an average 70 pounds/head more than steers on a rotational system which contained all cool-season grass pastures.
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> Pheasant nesting in Iowa was 70 percent higher in switchgrass plantings than in an orchard grass-alfalfa hay field. Early June haying destroyed all nests in the orchard grass-alfalfa field. Nest loss was reduced in switchgrass due to the later haying date.
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> Native grasses are used in seeding mixtures for roadsides in Iowa, Kansas and Nebraska to increase soil-holding capabilities, plant diversity for wildlife and aesthetics.

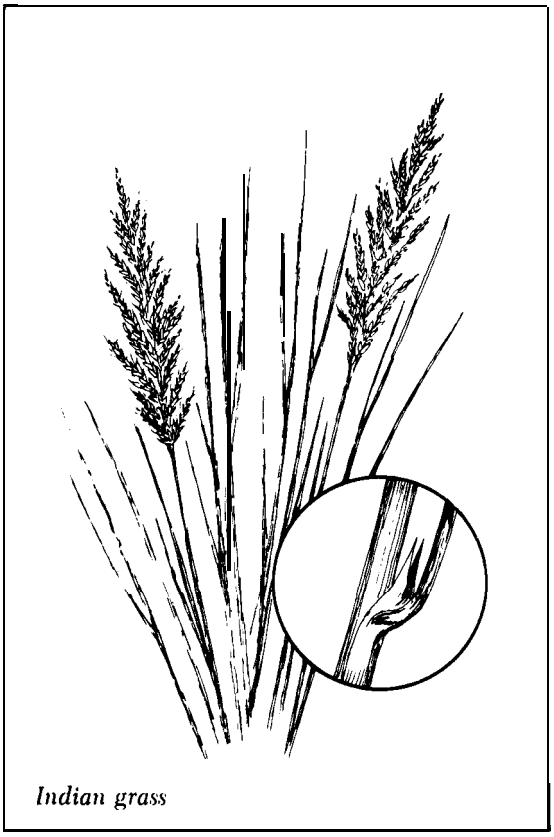
The true prairies of Missouri are almost gone. The Department of Conservation, using Design for Conservation funds, is purchasing remnant tracts to preserve areas

representative of this part of our natural heritage. Private organizations such as The Nature Conservancy and The Missouri Prairie Foundation have acquired tracts which are preserved and managed in cooperation with the Department of Conservation.

The free-ranging bison and elk are gone from Missouri. Resident black bear and cougar are gone. Prairie chicken populations are drastically reduced. The prairie which sustained these animals is reduced to remnant parcels. If you own land which contains true prairie, you control an amazing natural resource. Properly managed, your native grassland can provide forage, wildlife habitat and an attractive landscape for you and your descendants forever.

Types of native grasses

Big bluestem - a tall, warm-season sod-forming grass. One of the most nutritious of the native grasses, it will grow under a wide range of conditions. It is excellent for wildlife, cattle production and beautification. Color ranges from bluish-green in summer to reddish-brown in fall. This species begins growth in April and produces seed in late August. It grows 5-8 feet tall and has a fibrous root system up to 12 feet deep. Identified by its purplish hairy stems and lower leaves, and a three-branched seed head from which its nickname, turkey foot, is derived.



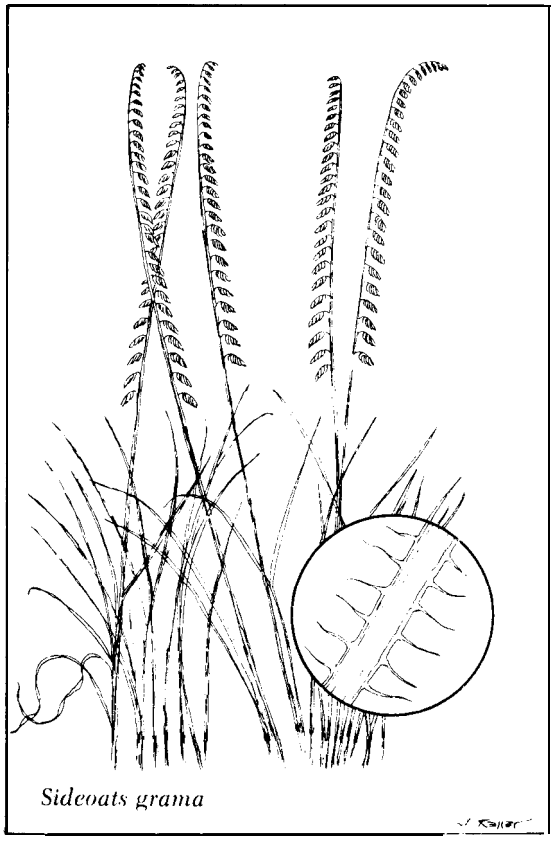
Indian grass - a tall, warm-season, sod-forming grass. It grows on a variety of soils and provides nutritious forage. Indian grass is excellent for wildlife, cattle grazing, erosion control and beautification. It grows to a height of five or six feet. An important vegetative characteristic is the claw-like extension of the sheath. Identified by its golden color and the golden 4- to 12-inch-long plumelike seed heads.

Switchgrass - a tall, warm-season, sod-forming grass. Most common on prairie lowlands, it also is found in small, upland patches. Its ability to remain in an upright position during ice and snow makes it an excellent wildlife plant. It is a good grass for summer grazing, waterways and erosion control. The Blackwell variety reaches a height of four to five feet. Kanlow and Cave-in-rock varieties may get as tall as 8-10 feet. Identified by its open seed head, which resembles redtop, and a "V" shaped tuft of hair at the base of the leaf.

Little bluestem

Little bluestem - a medium height, warm-season bunch grass common on prairie uplands. Highly nutritious, it makes good hay and will grow on thin, poor soils. In fall and winter its reddish-brown color makes it one of the most beautiful grasses on the prairie. It reaches a height of two to four feet and has a dense root system which may reach 5-8 feet deep. Identified by its purplish color, clumpy growth pattern and flattened stems.

Sideoats grama - a medium height, warm-season bunch grass. This grass is ideal for use with other grasses on hard-use areas such as playgrounds; it's a little tall for lawn use. An ideal grass to include in plantings for wildlife, grazing and erosion control, it reaches a height of two to three feet. It will not do well on wet sites or areas with temporary standing water. Sideoats grama turns reddish-white in fall. Identified by bumps and hairs on leaf edges and seeds that tend to hang down on one side of the stem, giving it the name "sideoats."



Sideoats grama

If you do not own a prairie, but wish to derive the benefits of re-establishing a stand of native grasses and forbs, contact the nearest Missouri Department of Conservation representative or write to: Missouri Department, of Conservation, P.O. Box 180, Jefferson City, Missouri 65102

Other native grass brochures available from the Department of Conservation:

Establishing native grasses
Native grasses for wildlife
Native grasses for Missouri stockmen